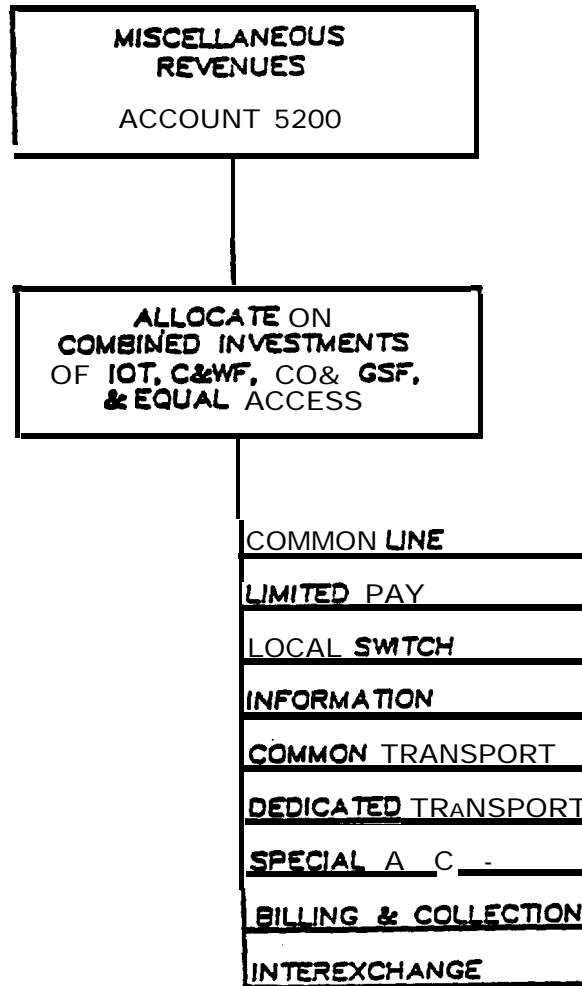


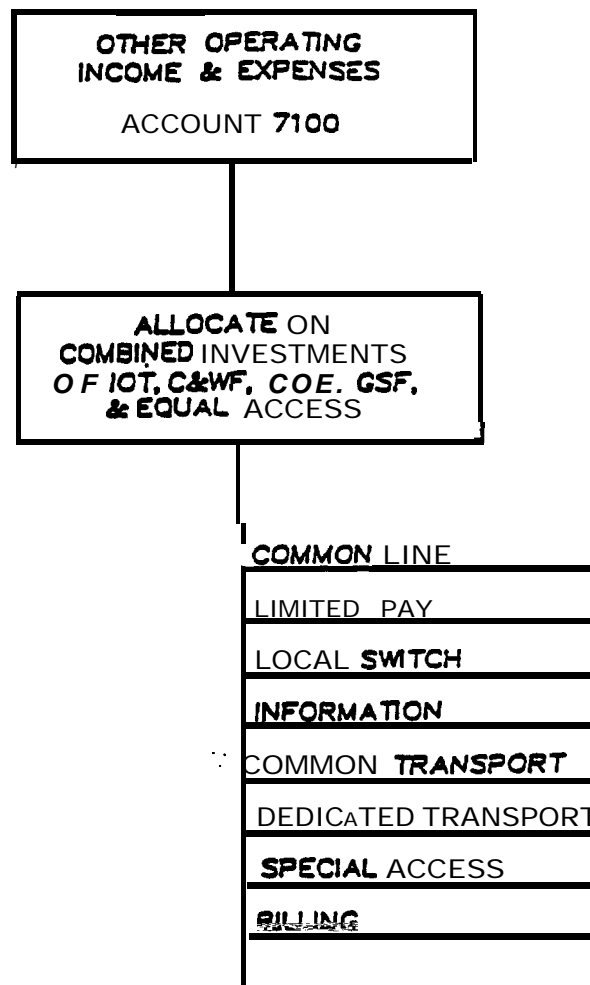
LCTX  
PT 69 ACCESS ALLOCATION

CHART No. 41



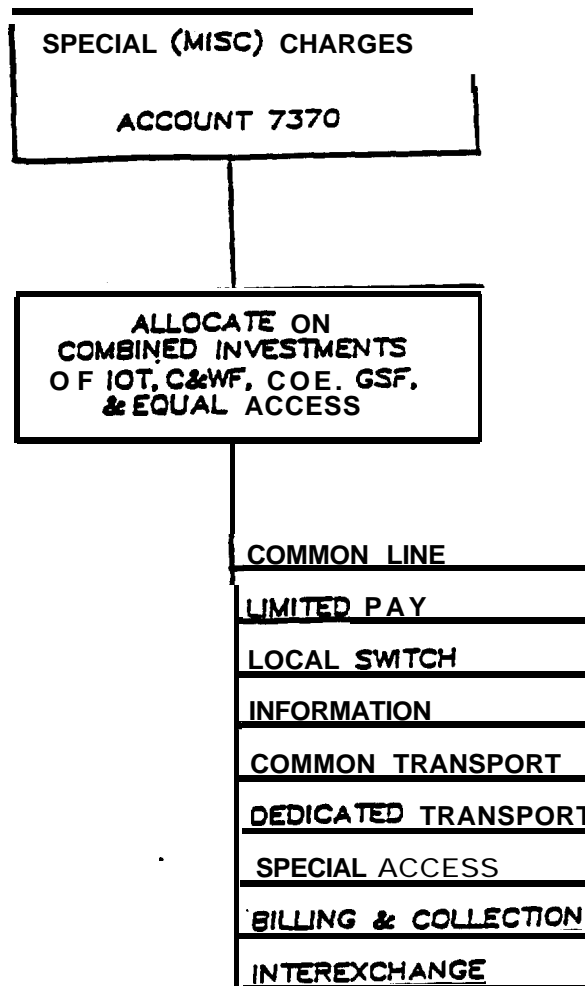
LCTX  
PT 69 ACCESS ALLOCATION

CHART No. 42



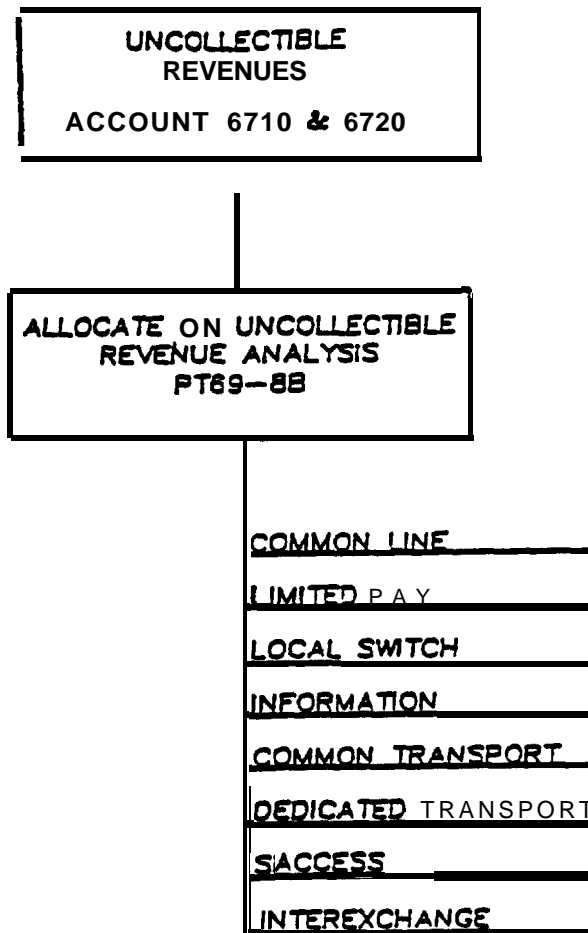
LCTX  
PT 69 ACCESS ALLOCATION

CHART No. 43



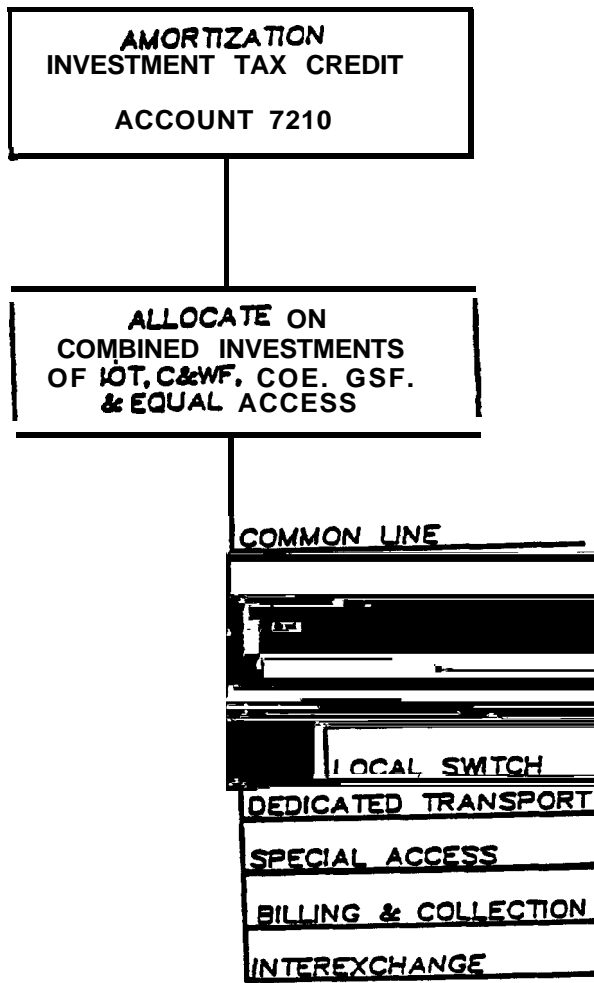
LCTX  
PT 69 ACCESS ALLOCATION

CHART No. 44



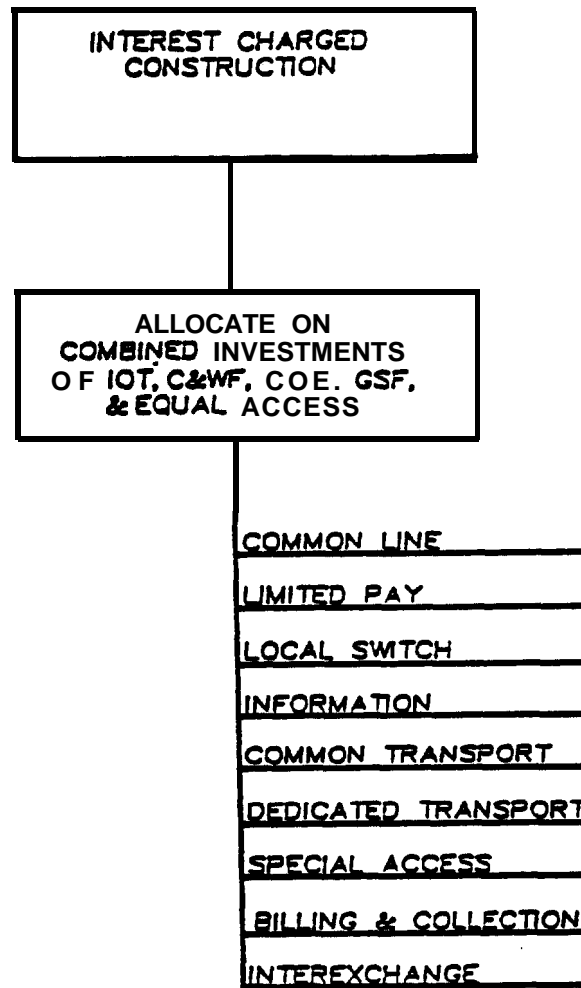
LCTX  
PT 69 ACCESS ALLOCATION

CHART No. 45



LCTX  
PT 69 ACCESS ALLOCATION

CHART No. 46



LCTX  
PT 69 ACCESS ALLOCATION

CHARGES

ACCOUNT 7500

ALLOCATE ON  
COMBINED INVESTMENTS  
OF IOT, C&WF, COE, GSF,  
& EQUAL ACCESS

- COMMON LINE
- LIMITED PAY
- LOCAL SWITCH
- INFORMATION
- COMMON TRANSPORT
- DEDICATED TRANSPORT
- SPECIAL ACCESS
- BILLING & COLLECTION
- INTEREXCHANGE

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## **DEMAND QUANTIFICATIONS**



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## SECTION 4

### DEMAND QUANTIFICATIONS

#### Overview

Explained in this document is the demand forecasting process used to develop the proposed rates for Switched and Special Access services for the prospective period. The prospective period for this filing is July 1993 through June 1994. The methods used for demand quantification for the various services, features and rate categories provided in this tariff are described herein. These include Local Switching, Local Transport, Information Surcharge, and Special Access. Demand graphs are included for reference to the historical and forecast trends. Forecast demand quantities have been adjusted to reflect expected changes in the **prospective** period.

#### Switched Access Demand Forecasting

Demand quantities **utilized** in the development of Switched Access rates for the prospective period include access minutes of use, minute miles, 800 messages, service orders, and service provisioning. Historical observations of these access minutes of use, minute miles, 800 messages, service orders, and service provisioning provide the basis for calculating the prospective demand. Sources for the required historical demand data included the company's Carrier Access Billing System (CABS) and Access Service Requests (ASR).

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A regression analysis model was used to derive a forecast based on the historical traffic sensitive usage for all rate elements. Historical data for switched access usage was collected for the period from January 1990 through December 1992. Historical data for 800 messages was collected for the last four months of 1992. In the forecasting procedures, considerations were given to revenue sharing arrangements and special services bypass. Any retroactive adjustments to access service usage from any of these changes were reflected in the monthly historical information provided by the CABS department and used in the demand forecasting model. Adjustments to the forecast usage are reflected in one of the adjustment columns.

The demand for 800 messages originating from **Lufkin-Conroe** Telephone Exchange (LCTX), which is known from historical records and forecasted to the applicable tariff period, less unbillables, is used as the billable demand to the interexchange customer of LCTX. **Unbillable** queries result in that not all interexchange carriers are access customers at the 800 originating office. Thus 800 service subscribers may be using an IXC that is not an access customer of LCTX, therefore when an end user customer dials the 800 number they will not be able to complete the call. In this case, LCTX will be billed by the data base provider, but will be unable to pass the query charge on to the IXC. LCTX has estimated that the unbillable demand will be fifteen percent of the cost demand. Further, LCTX is forecasting only basic queries, with enhanced queries to be zero since there will not be a record indicator to identify an enhanced query at this time. The actual cost demand is not a known and measurable value since the

actual cost demand is not a known and measurable value since the service is new. LCTX has estimated the cost demand based on the known and measurable demand of historical 800 originating messages that was used for the billable demand, plus one percent for growth. The fifteen percent for unbillables was not subtracted from the cost demand as LCTX will pay the data base provider for all queries into the data base.

### Local Switching

Local Switching is divided into four rate elements, i.e. Local Switching 1 (**LS1**), Local Switching 2 (**LS2**), Local Switching Non-Premium (LS), and 800 data base query. Local Switching rates are applied, based on the local switching office configuration and the type of service for which the switching services are provided. The **LS1** rate is a discounted premium rate and is applied to Feature Group A and **B** originating and terminating premium minutes of use in an Equal Access office. The **LS2** rate is a premium rate and is **applied** to Feature Group C and **D** originating and terminating premium minutes of use. The LS (Transitional) rate is a non-premium rate and is applied to Feature Group A and **B** minutes of use originating and terminating in a non Equal Access office. After Equal Access conversion the non-premium rate will only apply to Feature Group A minutes of use terminating in a non Equal Access office.

The equivalent **LS2** premium access minute demand is the basis for developing the Local Switching rates. **LS1** premium **minutes** are multiplied by a transitional factor of 1.000 to develop its equivalent

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LS2 demand. The transitional LS non-premium minute is multiplied by a factor of **.45** to develop its equivalent LS2 demand. The total of these three (LS2 minutes, **LS1** equivalent minutes, **LS** equivalent minutes) produce the minutes divided into the Local Switching revenue requirement to compute the LS2 premium access minute charge.

The 800 data base query charge is divided into elements, i.e. Basic Query Charge and Enhanced Query Charge. The Basic Query Charge will be billed to an IXC for handling basic 800 queries and routing 800 calls to the IXC. The Enhanced Query Charge will be billed to an IXC for handling complex 800 queries, i.e. vertical services. The enhanced query rate was developed by applying a ratio, relating basic to enhanced cost, to the basic rate. LCTX will not be able to

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### Information Surcharge

Information Surcharge rate is developed based on chargeable switched access minutes and is applied per 100 access minutes of use. The Information Surcharge demand minutes of use are derived by adding prospective Traffic Sensitive premium minutes of use to the equivalent chargeable non-premium minutes of use and dividing by 100. The equivalent chargeable non-premium minutes of use are derived by multiplying the prospective non-premium minutes of use by a factor of **.45**.

### Special Access Demand Forecasting

Demand **quantities** utilized in the development of Special Access rates for the prospective period include recurring charges and non-recurring charges. The recurring charges include Channel Termination (CT), Channel Mileage Facility (CMF), Channel Mileage Termination (CMT), and Optional Features and Functions (OFF). The non-recurring charges include Service Order Charges and Provisioning Charges. Historical observations of these Special Access elements provide the basis for calculating the prospective Special Access demand. Sources for the required historical demand data include the company's Carrier Access Billing System (CABS) and Access Service Requests (ASR).

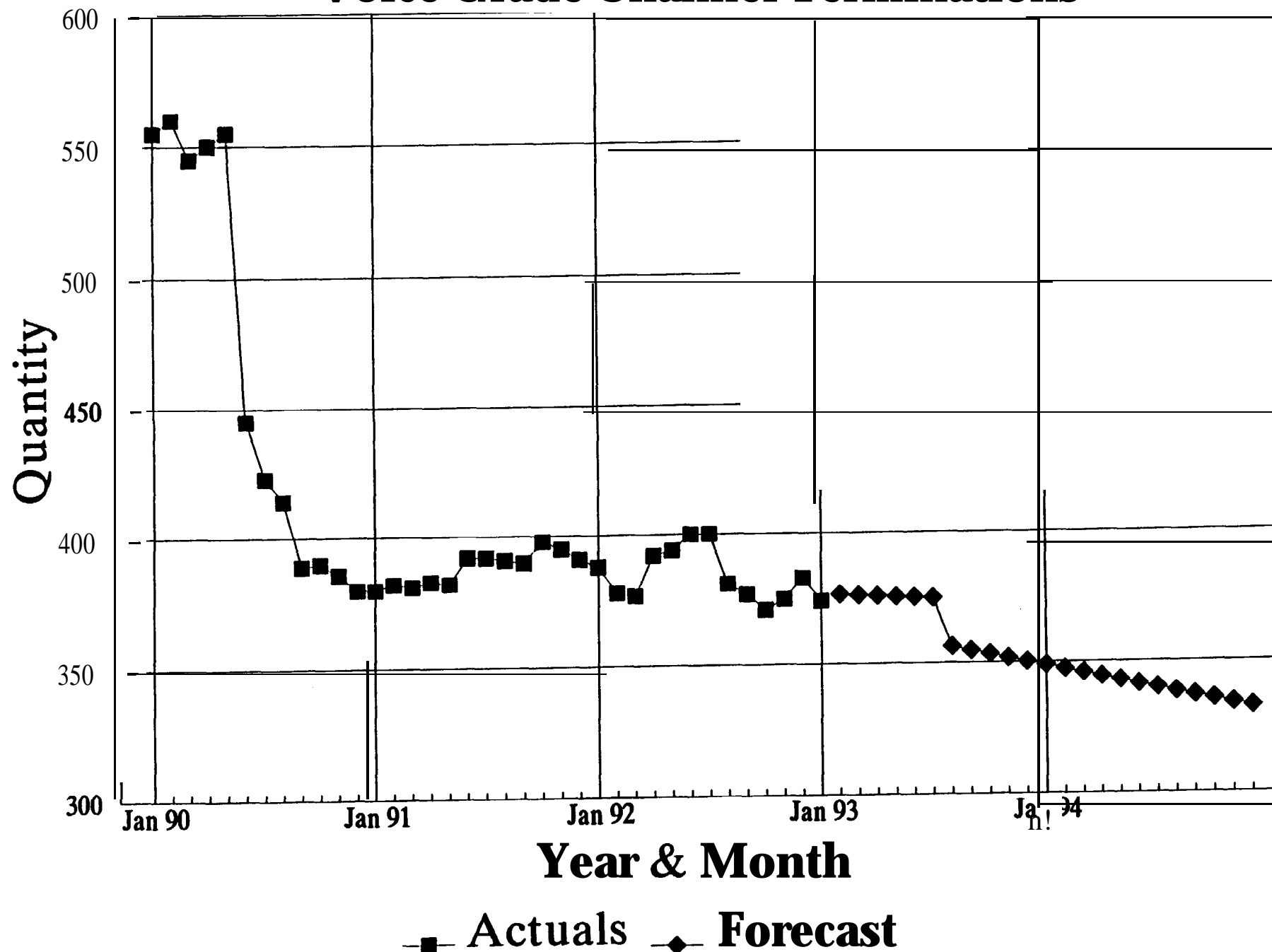
A regression analysis model was used to derive a forecast of the special access elements based on the historical usage of all special access rate elements. The period from January 1990 through December 1992 was used in the regression analysis. The special access service

rate elements make up several special access service categories offered by LCTX, i.e. Voice Grade, Program Audio, Digital Data and High Capacity. Monthly demand forecasts have been totaled and then averaged for the average monthly demand forecast. Adjustments to the special access demand forecast are reflected in the adjustment column for the Traffic Sensitive Special Access usage. These adjustments were made to correct an unrealistic demand forecast for certain elements and services made by the forecasting model.

#### Non-Recurring Charges

The activity of service orders and installations are random and inconstant, which makes it very sensitive to a minimal shift, and therefore the regression model has forecasted an unrealistic demand for switched access. LCTX has adjusted this demand as shown in the adjustment columns for Traffic Sensitive switched and for Special Access to more realistically reflect the activity which is expected during the test year period.

# Lufkin – Conroe Special Access Forecast Voice Grade Channel Terminations



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**RATE DEVELOPMENT**



## SECTION 5

### RATE DEVELOPMENT

The revenue requirement for the rate elements as allocated by the FCC Part 69 Rules is transferred into a mechanized rate development system. The following discussion will address the steps taken in the disaggregation of Part 69 rate elements.

#### Local Switching

Cost of Service studies were made for non-recurring cost, that is service order charges and provisioning charges. The demand times the cost was summed and subtracted from the total local switching revenue requirement to determine the residual for pricing of the local switching rates. These studies will be discussed in detail under the heading of Non-Recurring Charges. 800 data base queries are calculated to be revenue neutral and should not affect the local switching revenue requirement.

The residual local switching revenue requirement was divided by the equivalent demand thus producing the LS2 premium rate. The equivalent demand is developed by multiplying the non-premium minutes by the factor of forty-five, the **LS1** discounted premium minutes by the factor of 1.000 and adding them to the LS2 premium minutes. The LS2 rate was multiplied by the factor of 1.000 per the FCC Part 69 rules to develop

the **LS1** rate. The non-premium rate was developed by multiplying the LS2 rate by the factor of forty-five.

### Common Transport

The revenue requirement of common transport was **disaggregated** to the Local Transport Termination (LTT) and Local Transport Facility (LTF) services based on the investment associated with the two sub-elements, times an annual carry charge (**ACC**) factor. The ACC factor is a product of a mechanized system which relates annual cost to categories of plant. The annual cost includes all expenses, both direct and indirect, rate of return, plus a calculated federal income tax.

The **LTT** revenue requirement was divided by the equivalent minutes thus producing premium LTT rates. Likewise, the LTF revenue requirement was divided by the equivalent minute miles, which produced the LTF premium mileage rates. The premium rate of the two sub-elements are multiplied by the factor of forty-five to derive the non-premium rates. Last, the product of these calculations are **ratioed** to the revenue requirement for the common transport element.

### Information

The local switching equivalent minutes were divided by 100 to derive the information surcharge equivalent minutes. The information surcharge revenue requirement was then divided by the product which

produced a premium rate per 100 minutes. The non-premium rate is then derived by multiplying the premium rate by a factor of forty-five.

### Special Access

The special access revenue requirement as produced in the Part 69 allocation system was first disaggregated between the recurring and non-recurring charges.

The recurring special access revenue requirement was then disaggregated into the channel termination (CT), channel mileage termination (CMT), channel mileage facility (CMF), and the optional features and functions (OFF) based on the annual cost, i.e. the investment for each group times the ACC factors. Last, the product of all the special access annual costs are **ratioed** to the special access revenue requirement.

### Channel Termination

The CT costs are made up of two cost elements, i.e. central office equipment (COE) subscriber circuit equipment and subscriber cable and wire facilities (C&WF). A loop equivalency factor was developed for each cost element.

The **C&WF** Category 1.3 loop equivalency is based on pairs used to provide each service. A special COE analysis was made itemizing the CT cost of each individual service. The CT cost from the COE Category

4.13 was priced for each individual service and related to a **4-wire** circuit, to produce a COE loop equivalency factor.

The equivalency factors were multiplied to the individual service demands to produce the equivalent CT demand separately for COE and **C&WF**. The COE equivalent loops were then divided into the COE annual cost to produce an annual COE cost per **4-wire** circuit. Likewise, the **C&WF** equivalent loops were divided into the **C&WF** annual cost to produce a **C&WF** annual cost per **4-wire** circuit. The individual loop equivalency factors were multiplied by the annual cost for a **4-wire** circuit which produced an annual cost for each individual service.

#### Channel Mileage Termination

All CMT services were priced out by equipment used with cost identified in the COE Continuing Property Records (CPR). An equivalency factor was developed based on the investment detail in the COE CPR relating each service to a voice grade 4-wire. The equivalency factor was then applied to the forecast demand to produce an equivalent demand.

The CMT investment was extracted from the Part 69 allocation and then multiplied by the ACC factor to produce a CMT annual cost. The annual cost was then divided by the equivalent demand to produce an annual cost per 4-wire CMT.

### Channel Mileage Facility

The CMF is composed of two cost elements, **i.e. C&WF** category 3 and COE category 4.23. The CMF investment was extracted from the Part 69 allocation and multiplied by the ACC factor to produce a CMF annual cost.

A channel equivalency factor was determined based on the **channels** used for each individual service. The equivalency factor was applied to the average monthly demand which was then divided into the CMF annual cost to produce an average cost per **4-wire** channel mile.

### Optional Features and Functions

The OFF services were priced from actual COE CPR investment values based on the equipment required to furnish each service. The total investment cost for each service was then multiplied by an ACC to yield an annual cost per service.

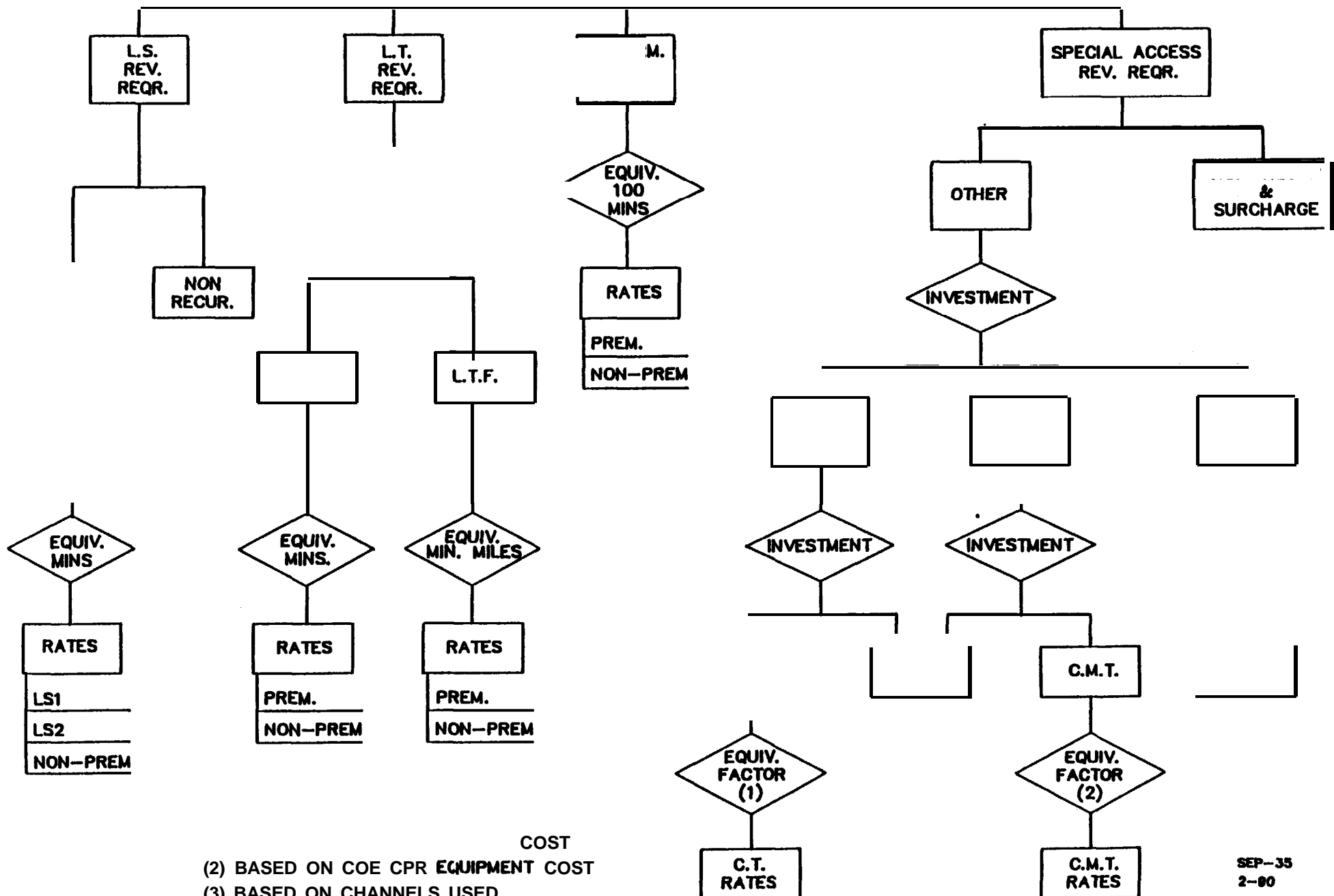
### Non-Recurring Charges

A time and motion study was performed for each service order and the provisioning of each type of service. The company loaded labor rates by work category were applied to the time required to perform each service order or provisioning service. The service order costs were averaged and weighted to produce one service order charge to be

applied to both special and switched services. Likewise, miscellaneous orders were averaged and weighted to produce one miscellaneous order charge. Unlike service order costs, the provisioning service costs were averaged and weighted to produce one provision charge within each service category (i.e. switched, voice grade, Hi-Cap etc.).

# ACCESS RATE DEVELOPMENT

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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

RECEIVED  
JUL 27 1993  
FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
 )  
1993 Annual Access ) CC Docket No. 93-193  
Tariff Filings, et al. )

Direct Case of the  
LUFKIN-CONROE TELEPHONE EXCHANGE, INC.

Lufkin-Conroe Telephone Exchange, Inc. (LCTX), by its attorneys, hereby files this Direct Case in response to the Federal Communications Commission's (FCC) June 23, 1993 decision regarding, among other things, the allocation of General Support Facility (GSF) costs. See In the Matter of 1993 Annual Access Tariff Filings et al., Memorandum Opinion and Order Suspending Rates and Originating Issues for Investigation, CC Docket No. 93-193, DA 93-762, released June 23, 1993 (Suspension Order). In the Suspension Order, the FCC suspended the June 17, 1993 GSF-related tariff filings<sup>1</sup> of all Local Exchange Carriers (LECs) for one day and instituted an accounting order. Suspension Order at p. 37. In addition, the Suspension Order, among other things, designated the following issue for investigation: "Have the LECs properly reallocated GSF costs in accordance with the GSF Order?" Id. at p. 36.

Attachment A hereto, contains Rule Section 61.38 cost support

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<sup>1</sup>The June 17 tariff filings were made in response to adoption of new rules concerning the allocation of GSF costs. See In the Matter of Amendment Part 69 Allocation of General Support Facility Costs, Report and Order, CC Docket No. 92-222, FCC 93-238, released May 19, 1993 (GSF Order).




materials submitted with the June 17 tariff filing. As shown in Attachment A, the rates proposed in **LCTX's** June 17 filing resulted from the proper allocation of GSF costs to all access service categories. Specifically, the new GSF allocation rules resulted in the allocation of more GSF costs to the carrier common line rate elements, costs that under previous rules were allocated to the traffic sensitive rate element.

Therefore, LCTX respectfully requests that the FCC terminate its investigation with respect to its June 17 tariff filing, and that the FCC find that **LCTX's** allocation of GSF costs were appropriate and resulted in just and reasonable rates in accordance with the Communications Act and the Commission's Rules.

Respectfully submitted,

**LUFKIN-CONROE TELEPHONE  
EXCHANGE, INC.**

By:



Benjamin H. Dickens, Jr.  
Gerard J. Duffy  
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Date: July 27, 1993